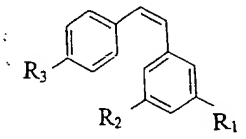
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

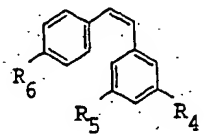
1. (Original) A resveratrol derivative having the formula;



wherein:

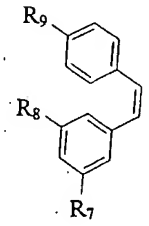
R_1 = OH and R_2= R_3 = -OCH_3.

2. (Original) A resveratrol derivative having the formula;



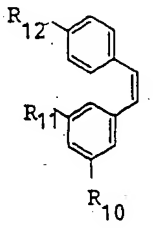
wherein R_4 = R_5 = -OCH_3 and R_6 = -OH.

3. (Original) A resveratrol derivative having the formula:



wherein $R_7 = R_8 = -OH$ and $R_9 = -OCH_3$.

4. (Original) A resveratrol derivative having the formula:



selected from the group consisting of compounds wherein:

a) $R_{10} = R_{11} = -OCH_3$ and $R_{12} = -O(PO)(OBn)_2$; and

b) $R_{10} = R_{11} = -OCH_3$ and $R_{12} = -O(PO)(ONa)_2$.

6. (Deleted)

7. (Deleted)

8. (Deleted)

9. (Deleted)

10. (Deleted)

11. (Original) A pharmaceutical composition comprising the compound of claim 1, or a pharmaceutically acceptable salt thereof.

12. (Original) A pharmaceutical composition comprising the compound of claim 2, or a pharmaceutically acceptable salt thereof.

13. (Original) A pharmaceutical composition comprising the compound of claim 3, or a pharmaceutically acceptable salt thereof.

14. (Original) A pharmaceutical composition comprising the compound of claim 4, or a pharmaceutically acceptable salt thereof.

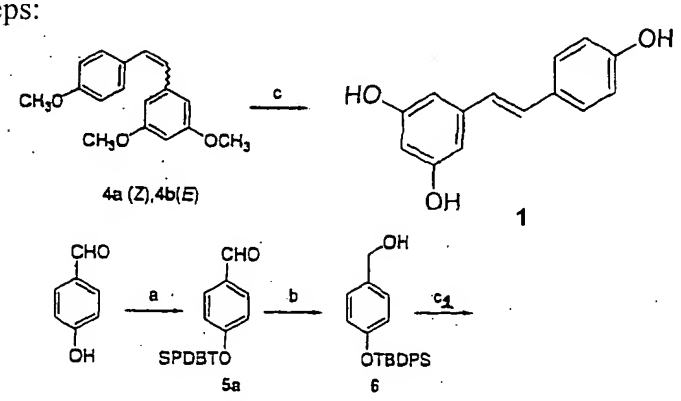
15. (Original) A method for treating humans and mammals afflicted with cancer, comprising administering a physiologically effective amount of the compound of claim 1 or its trans isomer, or a pharmaceutically acceptable salt thereof.

16. (Original) A method for treating humans and mammals afflicted with cancer, comprising administering a physiologically effective amount of the compound of claim 2, or a pharmaceutically acceptable salt thereof.

17. (Original) A method for treating humans and mammals afflicted with cancer, comprising administering a physiologically effective amount of the compound of claim 3 or its trans isomer, or a pharmaceutically acceptable salt thereof.

18. (Original) A method for treating humans and mammals afflicted with cancer, comprising administering a physiologically effective amount of the compound of claim 4, or a pharmaceutically acceptable salt thereof.

19. (New) A method for synthesizing the resveratrol derivative of claim 1, comprising the following steps:

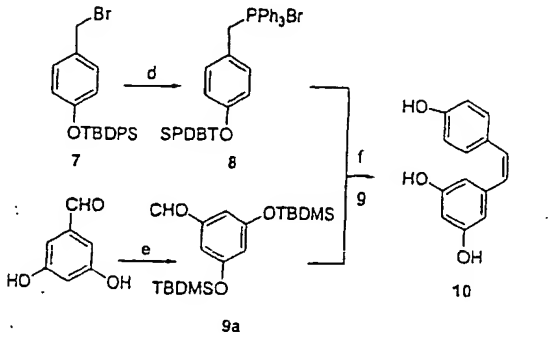


Wherein **c** = adding dropwise to compound 4b, in anhydrous dichloromethane, boron tribromide, stirring under argon, pouring into water and extracting with dichloromethane;

Wherein **a** = adding, to solution of 4-hydroxybenzaldehyde in dimethylformamide, imidazole, then stirring, adding butyldiphenysilyl chloride, stirring, pouring reaction mixture into water, and extracting with ethyl acetate, then with more solvent;

Wherein **b** = adding to solution of compound 5a in methanol, sodium borohydride, stirring, pouring into water, extracting with ethyl acetate, and removing solvent;

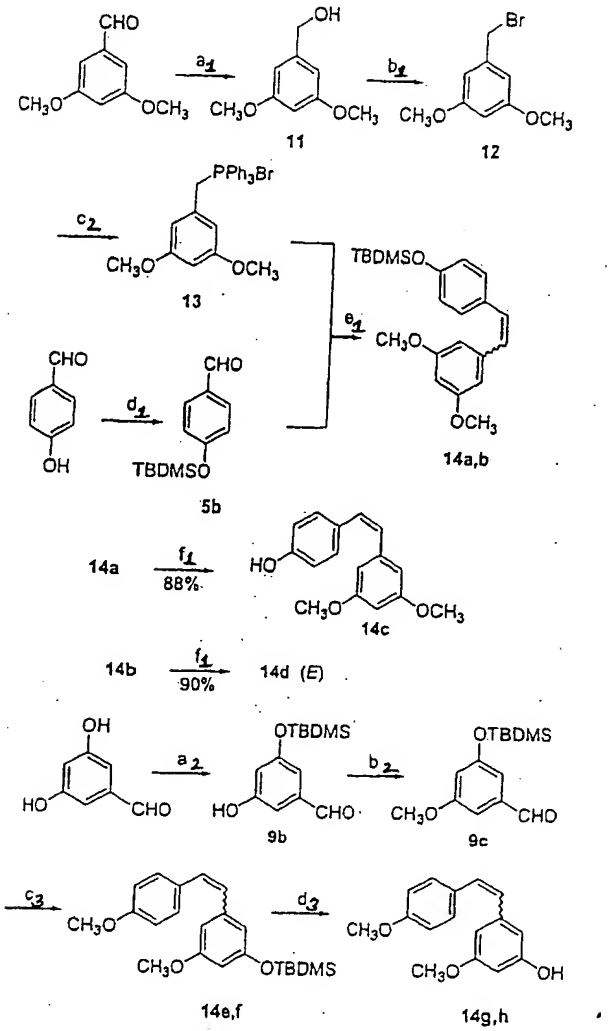
Wherein $\mathbf{c_1}$ = adding phosphorous tribromide, stirring, then pouring into aqueous sodium bicarbonate, extracting with dichloromethane and removing solvent;



Wherein d = adding triphenylphosphite, heating, cooling and recrystallizing;

Wherein e = adding DIEA to solution of 3,5-dihydroxybenzaldehyde in dimethylformamide, stirring, then adding silyl chloride, stirring again, pouring mixture into water, and extracting with dichloromethane and removing solvent in vacuo;

Wherein f and g together = dissolving mixture of compounds 8 and 9a in tetrahydrofuran, and treating with TBAF and stirring, then purifying by gravity column chromatography;



Wherein a_1 = reacting in methanol and reducing with sodium borohydride;

Wherein b_1 = adding phosphorous tribromide;

Wherein c_1 = adding to compound 12 in toluene, triphenylphosphite, then heating at reflux, then cooling down to about room temperature;

Wherein d_1 = treating compound 13 in anhydrous tetrafuran with 5b;

Wherein f_1 = to solution of compound 14a in anyhydrous tetrafuran, adding tetrabutyl ammonium fluoride, stirring, pouring into water, extracting with dichloromethane, and removing solvent to form oil, then purifying oil by gravity column chromatography;

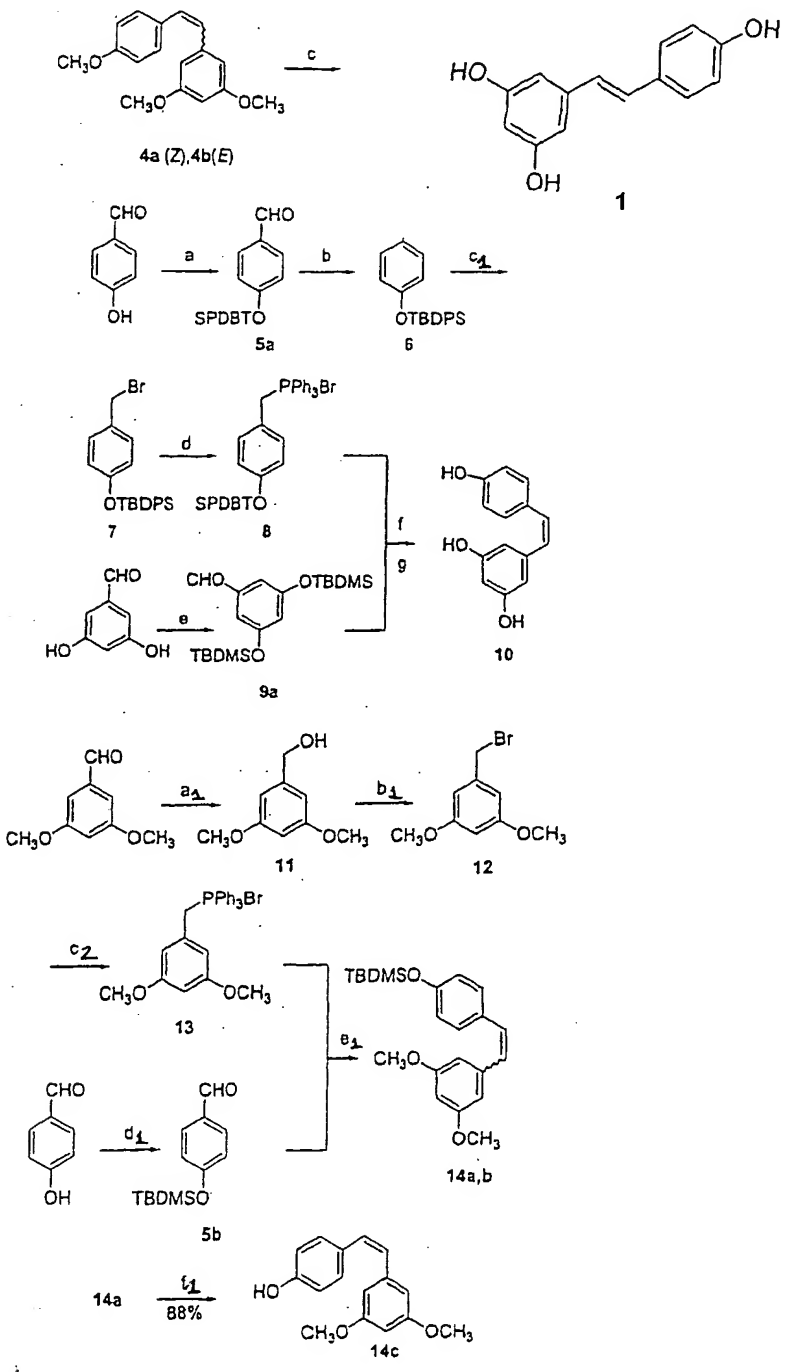
Wherein a_2 = in dimethylformamide, monosilylate using DIEA and silyl chloride with stirring, and separating oily product by flash chromatography;

Wherein b_2 = adding to solution of 9b in dichloromethane molecular sieves, a proton sponge, and trimethyloxonium tetrafluoroborate and stirring, then filter, rinse sieves with ethyl acetate and remove solvent from filtrate in vacuo to yield oil, and purify oil by flash column chromatography;

Wherein c_3 = reacting compound 9c with phosphonium bromide;

Wherein d_3 = deprotecting and separating products by gravity column chromatography.

20. (New) A method for synthesizing the resveratrol derivative of claim 2, comprising the following steps:



Wherein **c** = adding dropwise to compound 4b, in anhydrous dichloromethane, boron tribromide, stirring under argon, pouring into water and extracting with dichloromethane;

Wherein **a** = adding, to solution of 4-hydroxybenzaldehyde in dimethylformamide, imidazole, then stirring, adding butyldiphenysilyl chloride, stirring, pouring reaction mixture into water, and extracting with ethyl acetate, then with more solvent;

Wherein **b** = adding to solution of compound 5a in methanol, sodium borohydride, stirring, pouring into water, extracting with ethyl acetate, and removing solvent;

Wherein $\mathbf{c_1}$ = adding phosphorous tribromide, stirring, then pouring into aqueous sodium bicarbonate, extracting with dichloromethane and removing solvent;

Wherein d = adding triphenylphosphite, heating, cooling and recrystallizing;

Wherein e = adding DIEA to solution of 3,5-dihydroxybenzaldehyde in dimethylformamide, stirring, then adding silyl chloride, stirring again, pouring mixture into water, and extracting with dichloromethane and removing solvent in vacuo;

Wherein f and g together = dissolving mixture of compounds 8 and 9a in tetrahydrofuran, and treating with TBAF and stirring, then purifying by gravity column chromatography;

Wherein a_1 = reacting in methanol and reducing with sodium borohydride;

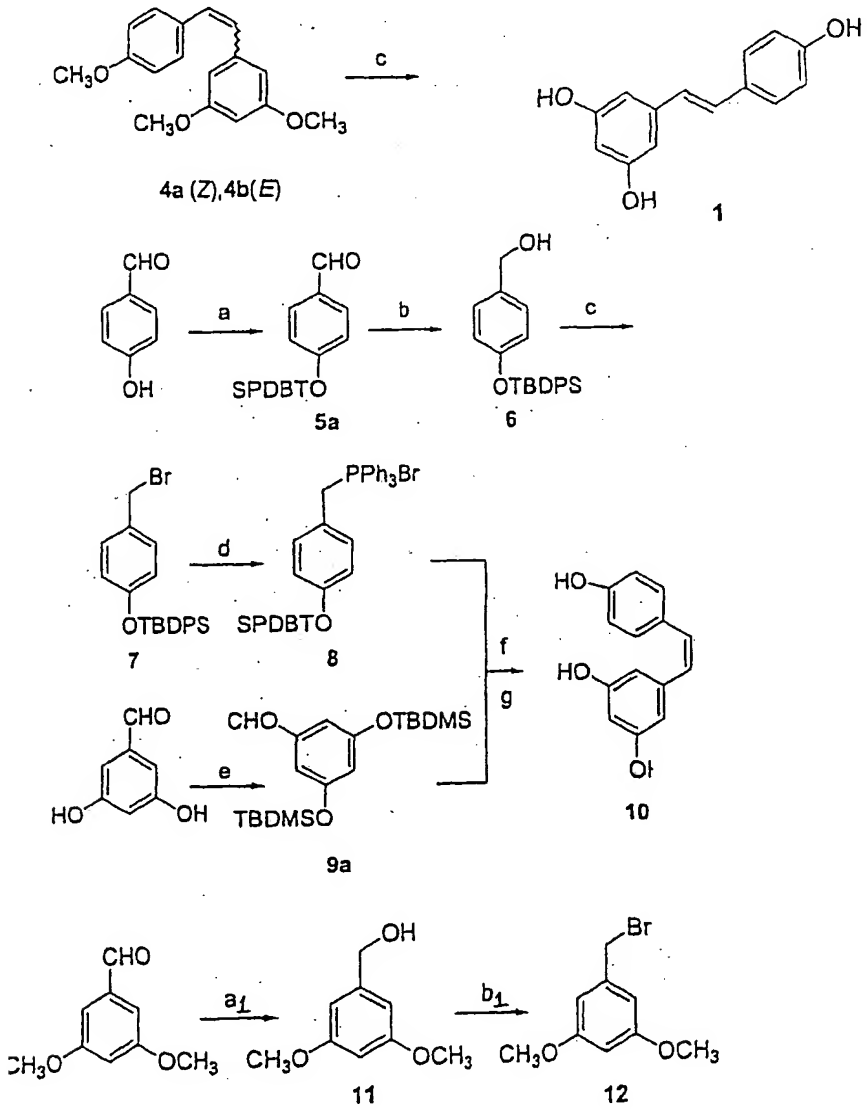
Wherein b_1 = adding phosphorous tribromide;

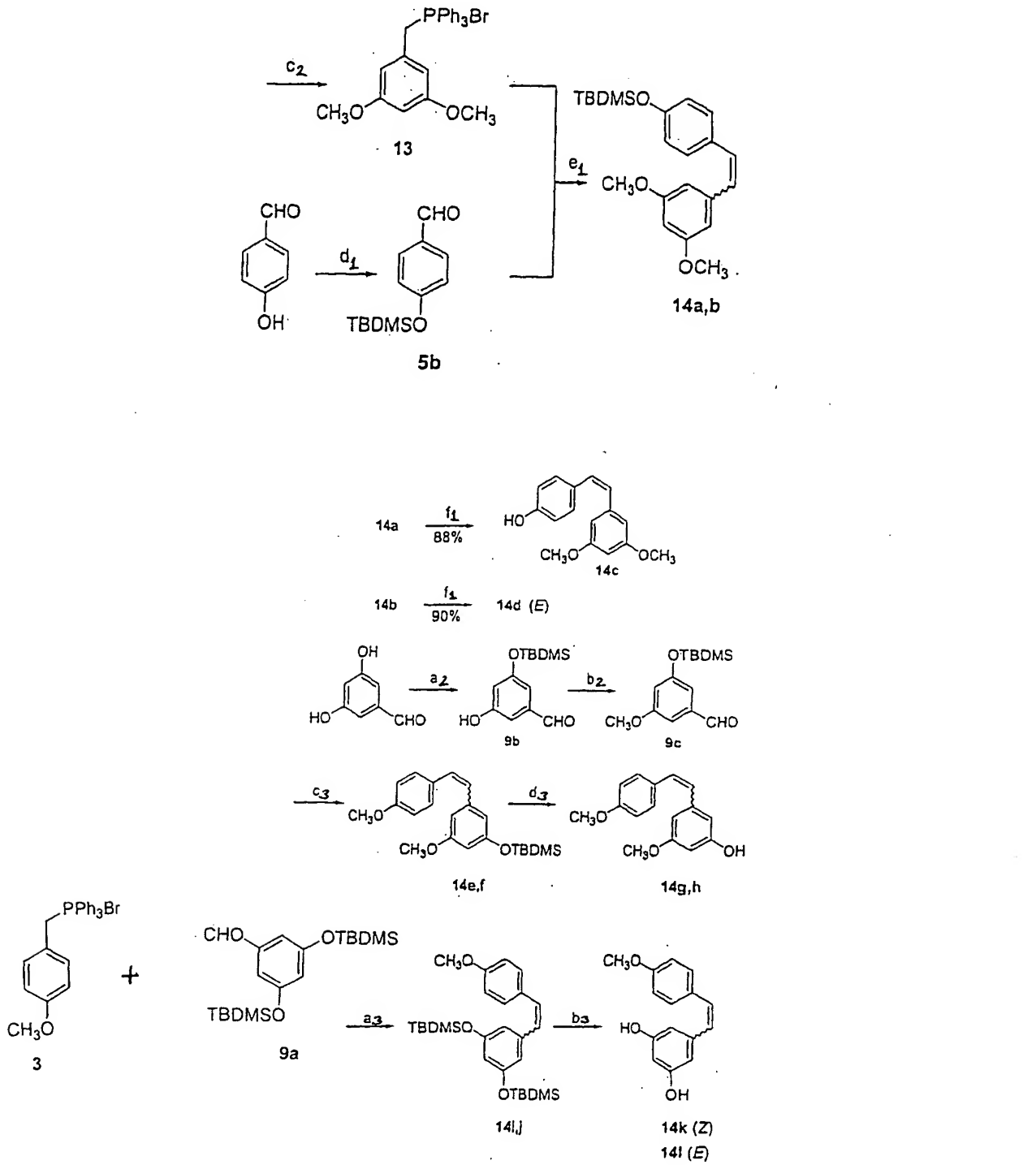
Wherein c_1 = adding to compound 12 in toluene, triphenylphosphite, then heating at reflux, then cooling down to about room temperature;

Wherein d_1 = treating compound 13 in anhydrous tetrafuran with 5b;

Wherein f_1 = adding to a solution of compound 14a in anhydrous tetrahydrofuran, tetrabutyl ammonium fluoride, stirring, pouring into water, extracting with dichloromethane, and removing solvent in vacuo to provide an oil, and separating oil by gravity column chromatography.

21. (New) A method for synthesizing the resveratrol derivative of claim 3, comprising the following steps:




PPh3Br
c2
CH3O
OCH3
13
TBDMSO
e1
CH3O
OCH3
14a,b
CHO
OH
d1
CHO
TBDMSO
5b
14a
f1
88%
HO
CH3O
OCH3
14c
14b
f1
90%
14d (E)
OH
HO
CHO
a2
OTBDMS
HO
CHO
9b
b2
OTBDMS
CH3O
CHO
9c
c3
CH3O
CH3O
OTBDMS
d3
CH3O
CH3O
OH
14e,f
14g,h
PPh3Br
CH3O
3
+
CHO
OTBDMS
TBDMSO
9a
a3
CH3O
TBDMSO
OTBDMS
14i,j
b3
CH3O
HO
OH
14k (Z)
14l (E)

Wherein **c** = adding dropwise to compound 4b, in anhydrous dichloromethane, boron tribromide, stirring under argon, pouring into water and extracting with dichloromethane;

Wherein **a** = adding, to solution of 4-hydroxybenzaldehyde in dimethylformamide, imidazole, then stirring, adding butyldiphenysilyl chloride, stirring, pouring reaction mixture into water, and extracting with ethyl acetate, then with more solvent;

Wherein **b** = adding to solution of compound 5a in methanol, sodium borohydride, stirring, pouring into water, extracting with ethyl acetate, and removing solvent;

Wherein $\mathbf{c_1}$ = adding phosphorous tribromide, stirring, then pouring into aqueous sodium bicarbonate, extracting with dichloromethane and removing solvent;

Wherein d = adding triphenylphosphite, heating, cooling and recrystallizing;

Wherein e = adding DIEA to solution of 3,5-dihydroxybenzaldehyde in dimethylformamide, stirring, then adding silyl chloride, stirring again, pouring mixture into water, and extracting with dichloromethane and removing solvent in vacuo;

Wherein f and g together = dissolving mixture of compounds 8 and 9a in tetrahydrofuran, and treating with TBAF and stirring, then purifying by gravity column chromatography;

Wherein a_1 = reacting in methanol and reducing with sodium borohydride;

Wherein b_1 = adding phosphorous tribromide;

Wherein c_1 = adding to compound 12 in toluene, triphenylphosphite, then heating at reflux, then cooling down to about room temperature;

Wherein d_1 = treating compound 13 in anhydrous tetrafuran with 5b;

Wherein f_1 = to solution of compound 14a in anyhydrous tetrafuran, adding tetrabutyl ammonium fluoride, stirring, pouring into water, extracting with dichloromethane, and removing solvent to form oil, then purifying oil by gravity column chromatography;

Wherein a_2 = in dimethylformamide, monosilylate using DIEA and silyl chloride with stirring, and separating oily product by flash chromatography;

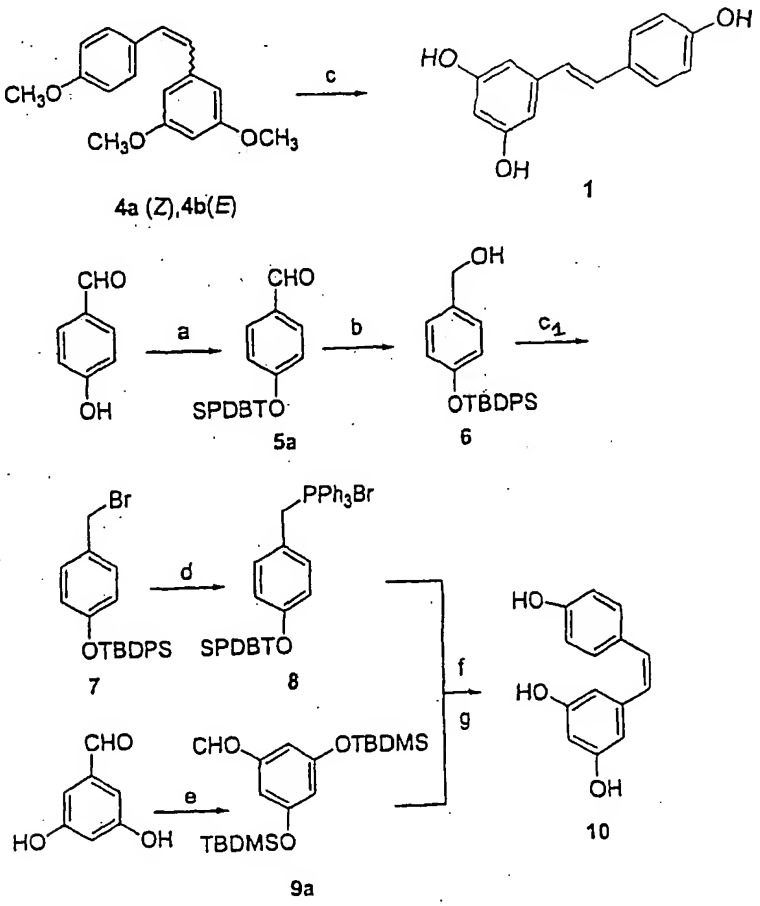
Wherein b_2 = adding to solution of 9b in dichloromethane molecular sieves, a proton sponge, and trimethyloxonium tetrafluoroborate and stirring, then filter, rinse sieves with ethyl acetate and remove solvent from filtrate in vacuo to yield oil, and purify oil by flash column chromatography;

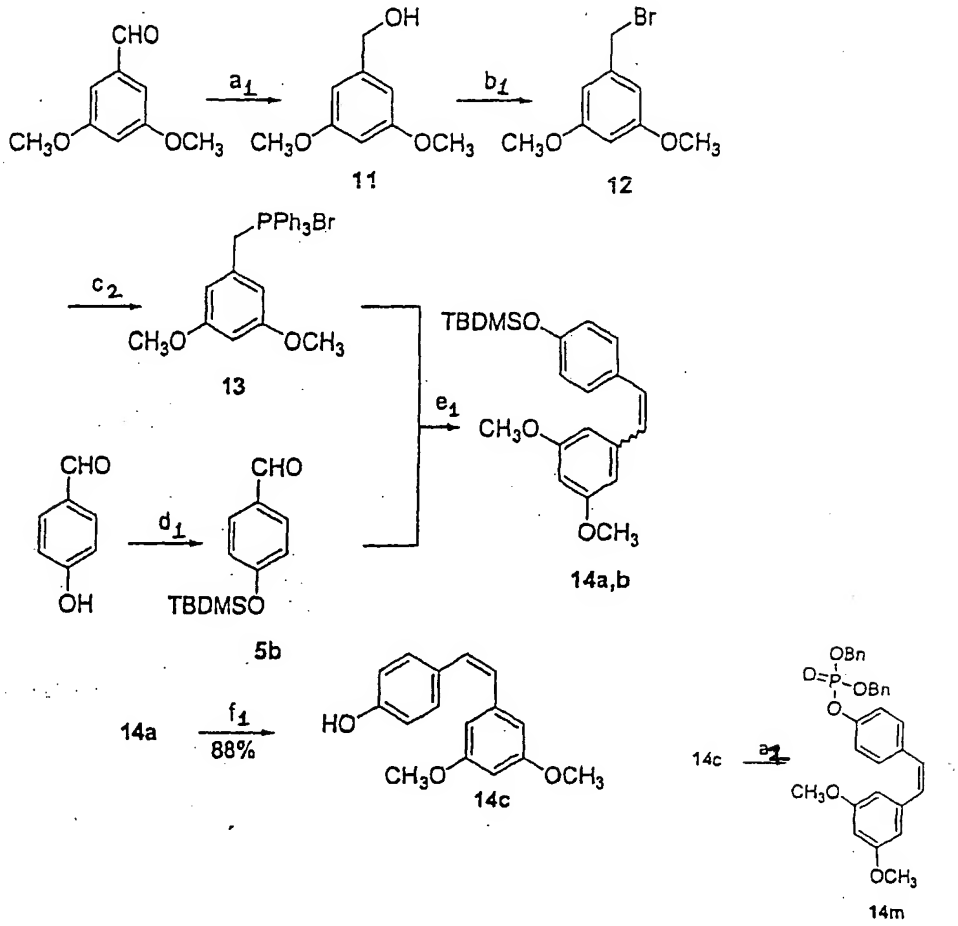
Wherein c_3 = reacting compound 9c with phosphonium bromide;

Wherein d_3 = deprotecting and separating products by gravity column chromatography;

Wherein b_3 = deprotecting mixture of compounds 14i and 14j, and separating products by gravity column chromatography.

22. (New) A method for synthesizing the resveratrol derivative of claim 4 wherein R_{10}=R_{11} = $-OCH_3$ and R_{12} = - $O(PO)(OBn)_2$, comprising the following steps:


CH3O
CH3O
OCH3
c
HO
OH
OH
1
4a (Z),4b(E)
CHO
OH
a
CHO
SPDBTO
5a
b
OH
OTBDPS
6
c1
Br
OTBDPS
7
d
PPh3Br
SPDBTO
8
f
g
HO
HO
OH
10
CHO
HO
OH
e
CHO
OTBDMS
TBDMSO
9a



Wherein **a** = adding, to solution of 4-hydroxybenzaldehyde in dimethylformamide, imidazole, then stirring, adding butyldiphenysilyl chloride, stirring, pouring reaction mixture into water, and extracting with ethyl acetate, then with more solvent;

Wherein **b** = adding to solution of compound 5a in methanol, sodium borohydride, stirring, pouring into water, extracting with ethyl acetate, and removing solvent;

Wherein $\mathbf{c_1}$ = adding phosphorous tribromide, stirring, then pouring into aqueous sodium bicarbonate, extracting with dichloromethane and removing solvent;

Wherein d = adding triphenylphosphite, heating, cooling and recrystallizing;

Wherein e = adding DIEA to solution of 3,5-dihydroxybenzaldehyde in dimethylformamide, stirring, then adding silyl chloride, stirring again, pouring mixture into water, and extracting with dichloromethane and removing solvent in vacuo;

Wherein f and g together = dissolving mixture of compounds 8 and 9a in tetrahydrofuran, and treating with TBAF and stirring, then purifying by gravity column chromatography;

Wherein a_1 = reacting in methanol and reducing with sodium borohydride;

Wherein b_1 = adding phosphorous tribromide;

Wherein c_1 = adding to compound 12 in toluene, triphenylphosphite, then heating at reflux, then cooling down to about room temperature;

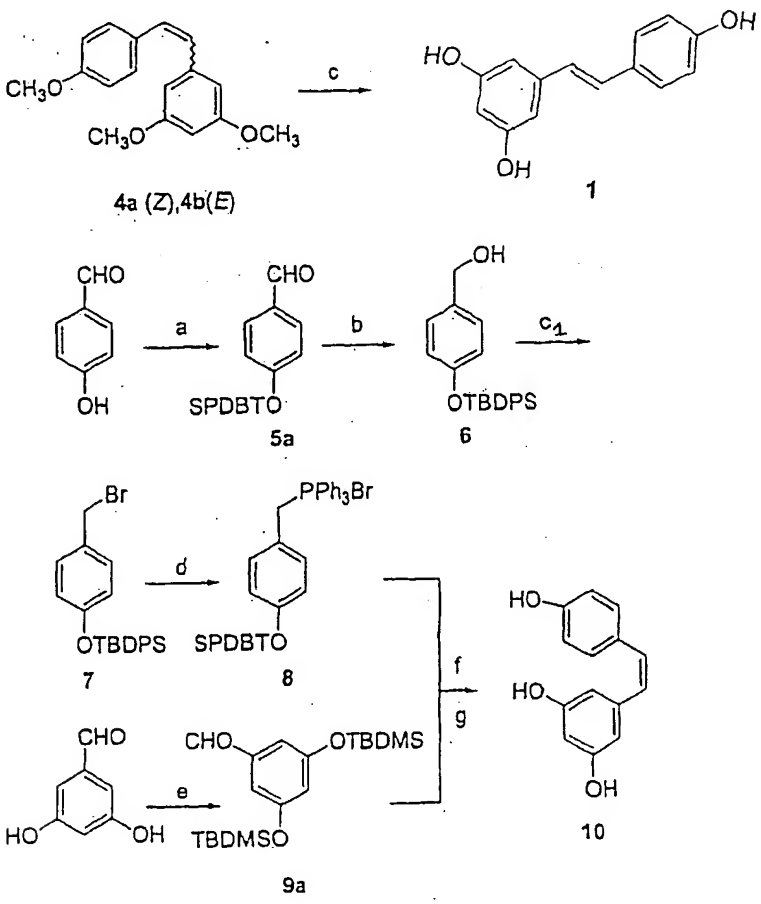
Wherein d_1 = treating compound 13 in anhydrous tetrafuran with 5b;

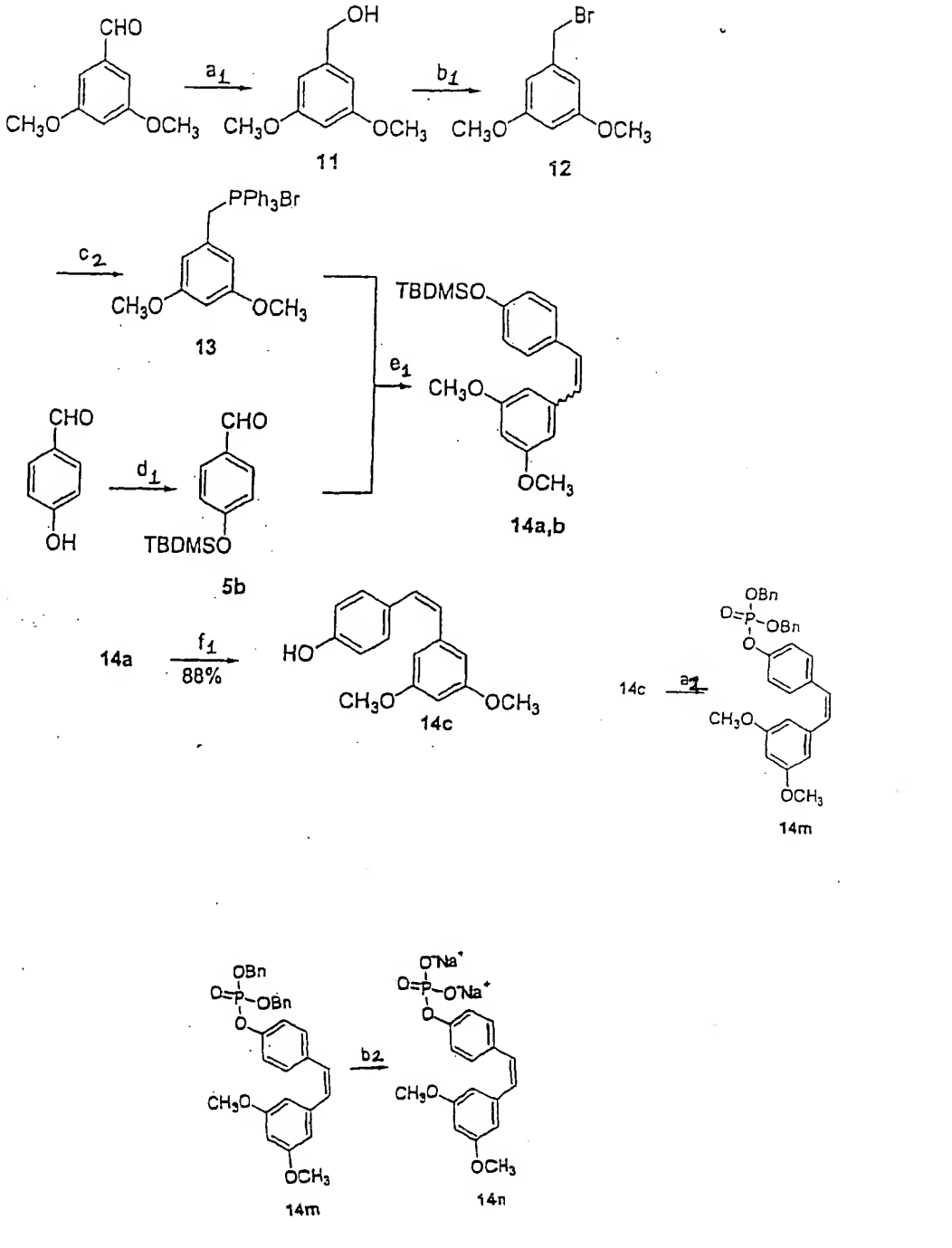
Wherein f_1 = adding to a solution of compound 14a in anhydrous tetrahydrofuran, tetrabutyl ammonium fluoride, stirring, pouring into water, extracting with dichloromethane, and removing solvent in vacuo to provide an oil, and separating oil by gravity column chromatography;

Wherein a_2 = forming mixture of compound 14c and N,N-dimethylaminopyridine in anyhydrous acetonitrile, cooling, then adding carbon tetrachloride and DIEA; stir under argon, add dibenzylphosphite, stir then pour into monobasic potassium phosphate extract mixed with ethyl

acetate and remove solvent in vacuo, and subject resulting oil to column chromatography and recover compound 14m.

23. (New) A method for synthesizing the resveratrol derivative of claim 4 wherein $R_{10} = R_{11} = -OCH_3$ and $R_{12} = -O(PO)(ONa)_2$, comprising the following steps:




CHO
a1
OH
b1
Br
CH3O
OCH3
11
12
PPh3Br
c2
13
TBDMSO
e1
CH3O
OCH3
14a,b
CHO
d1
OH
TBDMSO
5b
14a
f1
88%
HO
14c
14c
a1
OBn
O=P-OBn
O
CH3O
OCH3
14m
b2
O-Na+
14n

Wherein **a** = adding, to solution of 4-hydroxybenzaldehyde in dimethylformamide, imidazole, then stirring, adding butyldiphenysilyl chloride, stirring, pouring reaction mixture into water, and extracting with ethyl acetate, then with more solvent;

Wherein **b** = adding to solution of compound 5a in methanol, sodium borohydride, stirring, pouring into water, extracting with ethyl acetate, and removing solvent;

Wherein $\mathbf{c_1}$ = adding phosphorous tribromide, stirring, then pouring into aqueous sodium bicarbonate, extracting with dichloromethane and removing solvent;

Wherein d = adding triphenylphosphite, heating, cooling and recrystallizing;

Wherein e = adding DIEA to solution of 3,5-dihydroxybenzaldehyde in dimethylformamide, stirring, then adding silyl chloride, stirring again, pouring mixture into water, and extracting with dichloromethane and removing solvent in vacuo;

Wherein f and g together = dissolving mixture of compounds 8 and 9a in tetrahydrofuran, and treating with TBAF and stirring, then purifying by gravity column chromatography;

Wherein a_1 = reacting in methanol and reducing with sodium borohydride;

Wherein b_1 = adding phosphorous tribromide;

Wherein c_1 = adding to compound 12 in toluene, triphenylphosphite, then heating at reflux, then cooling down to about room temperature;

Wherein d_1 = treating compound 13 in anhydrous tetrafuran with 5b;

Wherein f_1 = adding to a solution of compound 14a in anhydrous tetrahydrofuran, tetrabutyl ammonium fluoride, stirring, pouring into water, extracting with dichloromethane, and removing solvent in vacuo to provide an oil, and separating oil by gravity column chromatography;

Wherein a_2 = forming mixture of compound 14c and N,N-dimethylaminopyridine in anyhydrous acetonitrile, cooling, then adding carbon tetrachloride and DIEA; stir under argon, add dibenzylphosphite, stir then pour into monobasic potassium phosphate extract mixed with ethyl acetate and remove solvent in vacuo, and subject resulting oil to column chromatography and recover compound 14m;

Wherein b_2 = adding to a solution of compound 14m in anhydrous dichloromethane, bromotrimethylsilane, stirring, adding water and stirring again; washing with ethyl acetate and freeze-drying aqueous phase to form a solid; forming a solution of the solid in ethanol, adding sodium methoxide, and stirring; removing solvent in vacuo and dissolving in water, washing with ethyl acetate and freeze-drying to form a solid.